

YAESU
The radio

FT-991

HF/VHF/UHF
ALL MODE TRANSCEIVER

Super-Advanced Receiver Circuitry Combined With Intuitive Operation
Further Raises the Bar for Compact All Mode Transceivers



The radio... YAESU

New generation FT-991 all-band transceiver offers full-fledged support for all modes

Uncompromising Receiver Circuit Design Ensures Excellent Basic Performance from HF to VHF/UHF

Sophisticated receiver front end on a par with FTDX Series Transceivers

• Triple conversion with 1st IF frequency of 69.450 MHz for all bands

• 1st IF stage implements a narrow bandwidth 3 kHz roofing filter as standard equipment. Designed for outstanding adjacent multi signal characteristics, not only in HF bands but in VHF and UHF bands.

• Features the highly acclaimed quad mixer of the FTDX series transceivers, along with a dedicated VHF/UHF mixer

The 1st IF mixer for HF/50 MHz features a quad mixer with four 35SK294 dual-gate MOS-FET devices that assures extremely low noise, excellent intermodulation characteristics, and high dynamic range. A dedicated VHF/UHF mixer, separate from the HF bands, allows design optimization for targeted frequencies, resulting in superior performance characteristics.



3 kHz and 15 kHz Roofing Filter



HF/50 MHz Quad Mixer



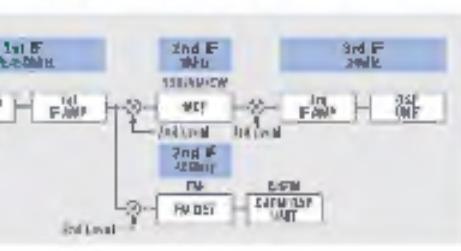
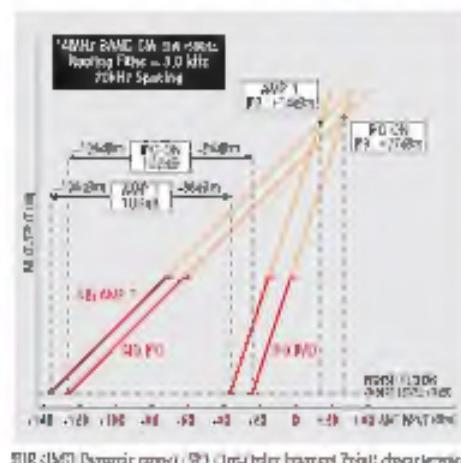
VHF/UHF Mixer

RF amplifier design is optimized for each band

• Selectable IPO/AMPI/AMP2 (HF/50 MHz) settings for optimized operation with any received signal

• Separate RF amplifiers provide best characteristics for each band

The IPO, AMPI and AMP2 selections for the HF/50 MHz bands allows matching the settings to the current band and conditions, in order to ensure optimal RF amplifier operation. The RF amplifier for the 430 MHz band uses high-electron-mobility transistor (HEMT) NE3509 devices which maintain good performance also in the GHz range, combining high gain with low NF (Noise Figure).



IF DSP from YAESU is Famous for Superb Interference Rejection

Same high-speed floating point DSP as used in FTDX Series

Highly effective interference rejection

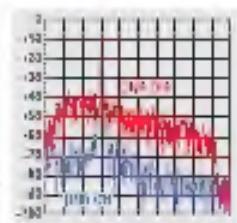
The high speed floating point DSP chip TMS320C6746 (3000 MIPS / 2250 MFLOPS) from Texas Instruments makes possible excellent interference rejection with actual signals under real-world conditions, not only in the HF but also in the VHF and UHF bands.



32-bit High-Speed Floating Point DSP



CONTOUR Filter Coefficients Diagram



Digital Noise Reduction Performance

Final Stage with Ample Power Reserves: 100 W for HF/50 MHz Band and 50 W for VHF/UHF Band

High quality push-pull amplifier with 100 watts for HF/50 MHz

Using a push-pull arrangement of RD500HIFI MOS-FET devices renowned for excellent performance in the HF/50 MHz range, the amplifier delivers 100 watts of low-distortion, high-quality power.

High speed 1.6 to 54 MHz antenna tuner included as standard equipment

The high speed digital tuner employs relay switching and features a large 100-channel tuning data memory. This allows the user to instantly call up optimum matching conditions for previously used frequencies.

50 W amplifier for VHF/UHF assures plenty of power for high frequency bands

The final amplifier for the VHF and UHF bands uses the high-output MOS-FET RD7010HF/2 device which incorporates two MOS-FETs in a single package, providing ample output power of 50 watts.



VHF/UHF Final MOSFET RD7010HF/12 Device

including HF/50/144/430 MHz in a single compact unit

HF/VHF/UHF ALL MODE TRANSCEIVER FT-991

Latest Touch Panel Operation Combined With Traditional Layout Realizes Optimal Ease of Use

3.5 inch full color touch panel display for convenient comfortable operating

- Full color TFT LCD display provides useful information about function status and settings at a glance
- Highly responsive panel with functional design and intuitive layout makes touch operation a pleasure
- Four user-customizable function keys offer quick access to mode-dependent assignments
- Traditional layout of Main Dial knob and related controls makes experienced users feel right at home



Function Key Display



Group Monitor Display

Advanced Spectrum Scope Function With Waterfall Display Capability

- High resolution spectrum scope that is not usually found in this class of transceiver, permits instant evaluation of band conditions
- ASC function automatically switches between the Scope sweep and the receive audio in conjunction with the tuning operation



Spectrum Scope Display (Waterfall Mode)

Support for Advanced C4FM Digital Functions

- V/D mode for simultaneous transmission of voice and data with powerful error correction optimal for mobile use, and Voice PR (Full Rate) mode for high quality audio transmission
- AMS function instantly recognizes digital mode or FM mode and enables mutual communication
- GM (Group Monitor) function allows easy on-screen checking for group members within range
- 126 types of DSQ (Digital Squelch) enable pinpoint selection of communication stations
- Transmission and reception of image data by C4FM digital is now possible.

Basic function

Versatile Array of Functions for CW Operation

- Advanced electronic keying (4 to 60 wpm) with FULL BK-IN support
- Electronic Keyer Weight control (2.5 - 4.5)
- CW side tone pitch frequency adjustable (300 - 1050 Hz)
- Message Memory function (5 cb x 50 characters)
- APP function with 3-stage bandwidth selection improves S/N ratio for enhanced intelligibility
- Auto Zero-in function facilitates subtle tuning operations for CW
- Automatic "Hammon" keyer mode
- CW SPOT Feature
- CW Mode reversal (USB or LSB injection)

Convenient Function for FM Mode

- 104 types of DCS (Digital Code Squelch)
- ARS function provides easy repeater access
- 50-tone CTCSS Encoder/Decoder for FM operation



HF/VHF/UHF 100 W
All Mode Transceiver
 C4FM
Geo-unchartered

FT-991
(144 MHz/430 MHz 50 W)

